

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 99.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-019398**Date Inspected:** 19-Jan-2011**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC)**Location:** Shanghai, China**CWI Name:** Li Yang and Zhu Zhong Hai**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Trial Assembly**Summary of Items Observed:**

On this date Caltrans OSM Quality Assurance (QA) Inspector Mr. S. Manjunath Math was present during the time noted above for observations relative to the work being performed.

This QA Inspector randomly observed the following work in progress:

Orthotropic Box Girder (OBG) at Trial Assembly Areas

Lift 11BW (Cross-brace Cable for Cable Tray's)

This QA Inspector witnessed the final tension verification for cross-brace cables for the Cable Tray structure connected diagonally by Crosby clips. The Cable Trays were installed at Bottom Panel Cross Beam and Counter Weight side at following Panel Points for Segment 11BW. The QA Inspector verified the tension of cross-brace cables and observed the results appeared to be in general compliance with RFI No. ABF-RFI-001874R00 Dated August 27, 2009.

The Panel Points (PP) where the steel cables were installed for cable trays are identified as below.

For Segment 11BW between PP98 to PP 99.

For Segment 11BW between PP99 to PP 100.

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The Inspection was performed against Notification No. 00617.

### Tower Grillage (Lift 5) – East

This QA Inspector witnessed final bolt tension verification on bolts connecting the Bottom Covering Plate to Angle Piece installed at Tower Grillage East Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00618.

The bolt sizes used were M24 x 80 RC Lot # DHGM240018 and the final torque value established was 1020 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

### Tower Grillage (Lift 5) – West

This QA Inspector witnessed final bolt tension verification on bolts connecting the Bottom Covering Plate to Angle Piece installed at Tower Grillage West Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00618.

The bolt sizes used were M24 x 80 RC Lot # DHGM240018 and the final torque value established was 1020 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

### Tower Grillage (Lift 5) – South

This QA Inspector witnessed final bolt tension verification on bolts connecting the Bottom Covering Plate to Angle Piece installed at Tower Grillage South Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners “A Line” and “E Line”. Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00618.

The bolt sizes used were M24 x 80 RC Lot # DHGM240018 and the final torque value established was 1020 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

### Tower Grillage (Lift 5) – North

This QA Inspector witnessed final bolt tension verification on bolts connecting the Bottom Covering Plate to

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Angle Piece installed at Tower Grillage North Transverse and Longitudinal Stiffeners and Angle Piece installed at stiffeners "A Line" and "E Line". Inspected the bolt tensioning on a random basis. The Inspection was performed against Notification No. 00618.

The bolt sizes used were M24 x 80 RC Lot # DHGM240018 and the final torque value established was 1020 N-m.

The Manual Torque wrench used was Serial No. XO2-747.

Please reference the pictures attached for more comprehensive details.

BAY 14, OBG (NWIT # 08214)

This QA inspector performed Magnetic Particle Testing (MT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated MT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

GTSA5-009 and GTSA5-010 for cleats plates welded on Top Cover plate of East Shaft Tower for Lift 5.

GTSA5-009 and GTSA5-010 for cleats plates welded on Top Cover plate of West Shaft Tower for Lift 5.

GTSA5-009 and GTSA5-010 for cleats plates welded on Top Cover plate of South Shaft Tower for Lift 5.

GTSA5-009 and GTSA5-010 for cleats plates welded on Top Cover plate of North Shaft Tower for Lift 5.

Segment 12BW to Segment 12CW (Deck Panel I-Rib Stiffeners)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as DP3050-001-023. The welder identification was 041713 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-3213-B-U3b. The piece mark was identified as Deck Panel I-Rib splice weld, Cross Beam side.

Segment 12BE to Segment 12CE (Deck Panel I-Rib Stiffeners)

This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as DP3050-001-023. The welder identification was 044515 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-3213-B-U3b. The piece mark was identified as Deck Panel I-Rib splice weld, Bike Path side.

Please reference the pictures attached for more comprehensive details.

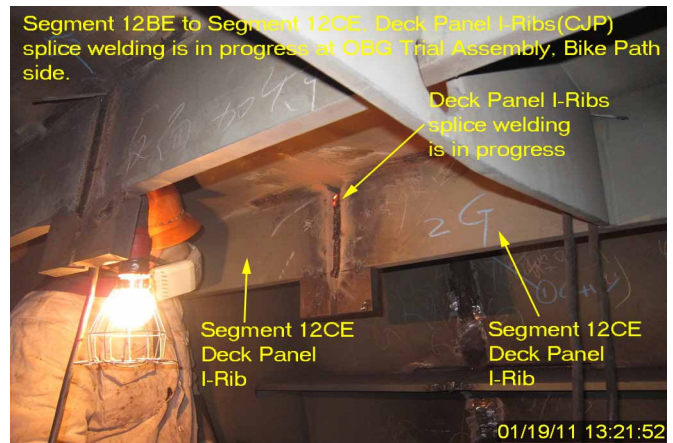
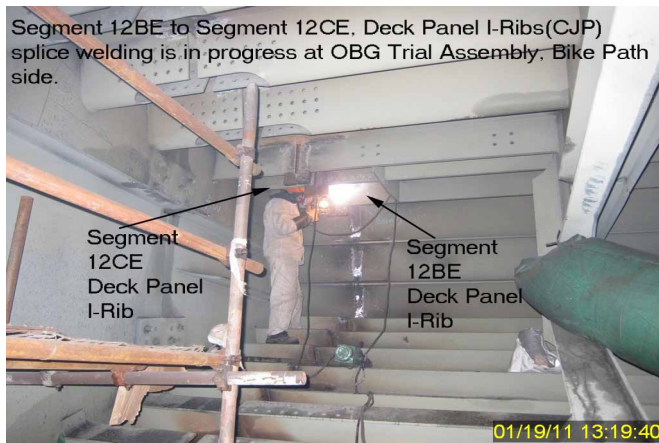
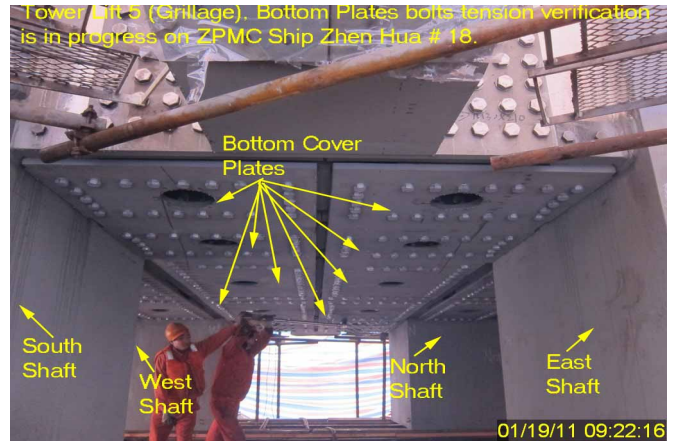
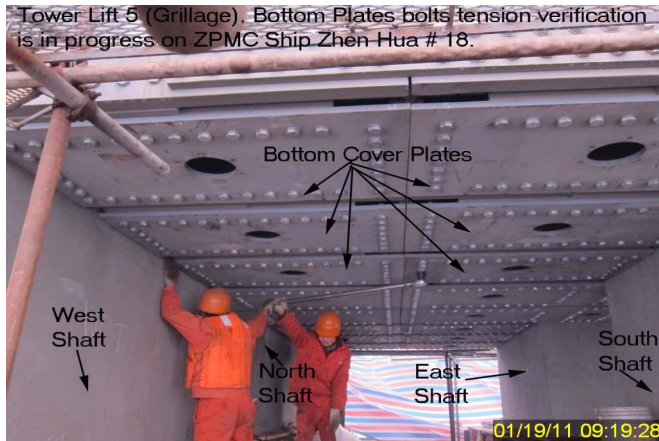
Segment 12BE to Segment 12CE (Deck Panel I-Rib Stiffeners)

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This QA Inspector observed the in-process welding by Shielded Metal Arc Welding (SMAW) process on a Complete Joint Penetration (CJP) groove weld. The Weld joint was designated as DP3012-001-025. The welder identification was 041713 and observed welding in the 3G (Vertical) position using approved Welding Procedure Specification WPS-B-T-3213-B-U3b. The piece mark was identified as Deck Panel I-Rib splice weld, Cross Beam side.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.



## Summary of Conversations:

No relevant conversations were reported on this date.

## Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150000422372, who represents the Office of Structural Materials for your project.

**Inspected By:** Math,Manjunath

Quality Assurance Inspector

**Reviewed By:** Dsouza,Christopher

QA Reviewer